A NEW *DAMOTHUS* AND A KEY TO THE NORTH AMERICAN DIGNATHODONTID GENERA (CHILOPODA : GEOPHILOMORPHA : DIGNATHODONTIDAE)[1]

By R. E. Crabill, jr.
U. S. National Museum, Washington, D. C.

The genus *Damothus* was proposed by R. V. Chamberlin in 1960 (p. 239) for the reception of a single species, *montis,* which had been collected in the Wasatch Mountains of Utah. While collecting arachnids and myriapods at Ophir in the Oquirrh Mountains of that State, Dr. H. W. Levi unwittingly uncovered the second-known specimen of the genus, which I judge to represent a new species, *alastus,* here described. I wish to express my thanks to Dr. Levi for his kindness in placing this and much other valuable material in my hands for study.

On the basis of all available information, the two most distinctive features of the genus are the massively crassate and essentially tubular ultimate legs of the male, and the presence of two basal denticles on the prehensorial tarsungula. Indeed, the latter character alone will distinguish *Damothus* from all other known chilopod genera of whatever order. After more is known about *Damothus,* it may well be seen that two other features have significance diagnostically: the peculiar shape of the 1st maxillary medial lobes; the relatively strongly-developed labral sidepieces.

Comparing the Harvard specimen with Dr. Chamberlin's original description of *montis,* I find the following to be significant distinguishing features. *D. montis:* (1) The first maxillae are without lappets. (2) The coxopleural pores are concentrated along and mostly concealed beneath the margins of the ultimate pedal sternite. (3) Ventral pore-fields are absent. *D. alastus,* n. sp.: (1) The first maxillary coxosternum bears a pair of conspicuous and relatively long lappets. (2) The coxopleural pores are all exposed and are not concentrated along and beneath the ultimate pedal sternite. (3) Small but conspicuous pore-fields are present on all pedal sternites except the last.

---

[1]This study was undertaken with the assistance of a grant from the National Science Foundation.
Manuscript received by the editor January 30, 1962.

Damothus alastus new species

Plate 5

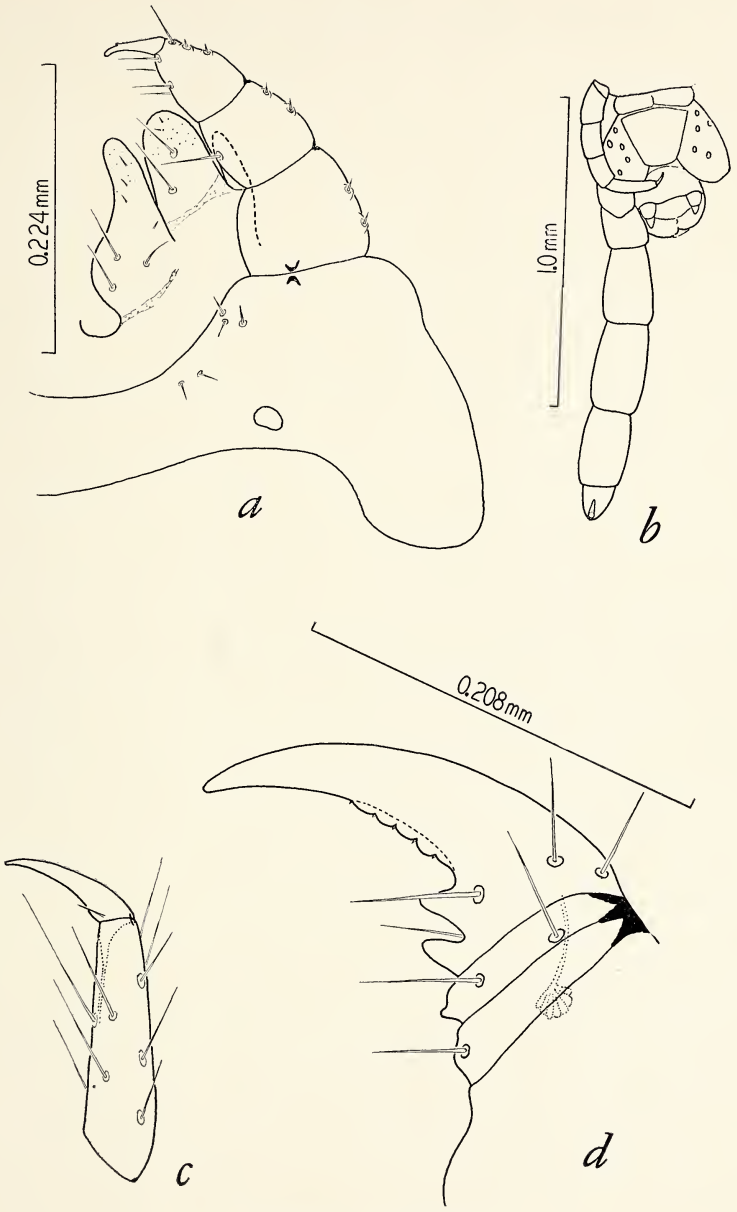
Holotype, male. Utah: Tooele County, Ophir, Oquirrh Mountains, 2000 m. 25 April 1961. Herbert W. Levi, leg., in cottonwood, sage. Specimen preserved in the Myriapod Collection of the Museum of Comparative Zoology, Harvard University.

GENERAL. Length: 11.5 mm. Pedal segments: 37. Body widest over posterior third, anterior to which it is gradually acuminate. Color: generally pale yellow; the head and prehensors yellowish-orange. ANTENNAE. Length: (expanded in Hoyer's) 1.65 mm. Shape: strictly filiform, neither attenuate nor clavate. Setae gradually increasing in number and decreasing in length on articles 1-14. Ultimate article twice as long as penult; its upper third with short, flat, special sensory setae on outside and inside surfaces. CEPHALIC PLATE. Length: 0.416 mm. Greatest width: 0.406 mm. Shape: sides evenly excurved; rear margin perfectly straight. Clothed with straight, relatively short, stiff setae. Frontal suture absent. Prebasal plate completely concealed. CLYPEUS. Paraclypeal sutures broadly membranous, complete. Transbuccal sutures vague, passing only half-way to lateral margin. With a pair of small and extremely weakly consolidated areas (plagulae) on extreme posterior margin. Setae: postantennals, 1 + 1, very long; midclypeals, 2 + 2, the inner pair much longer than the outer pair; prelabrals absent. LABRUM. Midpiece very wide, armed over entire width with long, hyaline, thin serratures. Sidepieces: strongly-developed, well-sclerotized; each with a few delicate, hyaline serratures; widely separated centrally; separated from clypeus by wide membranous strip. FIRST MAXILLAE. Coxosternum: without setae; medially undivided; very vaguely separated from medial lobes and telopodites; with a pair of concealed, relatively long lappets. SECOND MAXILLAE. Isthmus very wide from side to side but narrow anteroposteriorly. Each coxosternite very weakly sclerotized, with few setae; without special thickenings or similar appurtenances. Telopodite: with strongly-developed dorsal and ventral basal condyles; the articles separated by distinct sutures; outer marginal setae extremly short and robust; inner marginal setae much longer; apical claw long and thin,

---

EXPLANATION OF PLATE 5

Damothus alastus sp.n. a. First and Second Maxillae. Left halves, all setae shown. b. Ultimate Pedal and Postpedal Segments. Ventral aspect, setae deleted. c. Left Sixth Leg, Tarsus and Pretarsus. Anterior surface, all setae shown. d. Tarsungula and Intercalary Articles of Left Prehensor. Ventral aspect, principal setae shown.



CRABILL — DAMOTHUS

smooth except for minute protuberance as shown in figure. PROSTERNUM. Without subcondylic sclerotic lines. Pleuroprosternal sutures arching obliquely laterally, complete anteriorly. Anterior margin without diastema or denticle. PREHENSORS. When closed, not surpassing anterior head margin. Trochanteroprefemur: basally bulging on inner side; without a denticle; outside length, 0.198 mm; inside length, 0.094 mm; basal width, 0.146 mm. Femoroid without denticle. Tibioid with a distinct but small denticle. Tarsungula: relatively short and robust; basally with two large denticles; dorsal edge smooth; ventral edge over proximal half dissected into about 4 coarse and rounded serrations; length, 0.208 mm. Poison calyx: of the simple type, consisting of bunched digitiform appendices; situated in femoroid. Poison gland situated entirely in the trochanteroprefemur. TERGITES. Without evident paramedian grooves. Tergites and intertergites clothed with long, stiff, robust setae. STERNITES. On the anterior third of body each with a midlongitudinal, shallow depression. Porefields: anterolaterals absent; each sternite from the first through the penult with two small, subcircular fields on extreme posterior margin. Pro- and metacoxal porefields present on the first through the penult pedal segments. Setae; few in number; arranged in regular horizontal rows. LEGS. Clothed with stiff, long, robust setae. Pretarsi: very long and thin, curved; parungues acicular, short, approximately equal in length. ULTIMATE PEDAL SEGMENT. Pretergite fused with its pleurites, i.e. without sutures or divisions bilaterally. Tergite: greatest width to length, 35 : 28; anterior corners rounded; sides straight and posteriorly convergent; rear margin broadly rounded. Presternite with a vague midlongitudinal suture. Sternite with sides essentially straight and convergent, its rear margin weakly rounded. Coxopleuron: barely inflated; ventrally with small, freely-opening, deeply-pigmented pores; 5 on each coxopleuron. Ultimate leg: greatly swollen, essentially tubular, notably much longer and more massive than the penults; tarsus consisting of two articles, the second about half as long as the first and conical in shape; pretarsus is a robust, dark claw; the whole leg clothed with robust, stiff setae; ventral and inner surfaces of all articles including and distal to the femur pierced by relatively large glandular pores. POSTPEDAL SEGMENTS. Gonopod distinctly bipartite, conical. Anal pores present and not concealed.

To assist in locating *Damothus* within the growing complex of North American dignathodontid genera, I have presented a generic key here: it is the first to be published since that of Attems of 1947, p. 129. To some extent it had to be based upon information only

available from the literature. Included are all of the genera now known from North America including Mexico.

Excluded are three genera which had been previously reported from the area under discussion: *Leptodampius* Chamberlin, 1938, p. 255; *Diplochora* Attems, 1903, p. 281; *Paraplanes Verhoeff,* 1933, p. 22. The original description of *Leptodampius* is not sufficiently full and detailed to permit its confident placement within my key. The recent examination of the holotype of *fusata* Attems, the type species of *Diplochora,* shows it to be referable to *Tomotaenia* Cook (new synonymy), and to the subgenus *Korynia* Chamberlin. Verhoeff's Californian *Paraplanes californicus,* whose types I have studied at Munich, all are referable to *Tomotaenia fusata* (Attems) (new synonymy). The details of these cases will be discussed in a separate paper soon to be issued.

1a. Each coxopleuron with two subsurface gland-pits, but without freely-opening and exposed pores. (Mexico) ..... *Pagotaenia* Chamberlin

1b. Each coxopleuron with freely-opening pores most or all of which are exposed. Subsurface gland-pits absent. 2

2a. Prehensorial tarsungula with 1 or 2 prominent basal denticles 4

2b. Prehensorial tarsungula without a basal denticle 3

3a. Coxopleural pores numerous, opening over most or all of coxopleural surface. Ultimate pedal sternite narrow and elongate. (Idaho). ..... *Zantotaenia* Chamberlin.

3b. Coxopleural pores few in number and opening only along and under the margins of the ultimate pedal sternite which is wider than long. (southeastern United States). .... *Agathothus* Bollman

4a. Tarsungula with 2 prominent basal denticles. (Utah) ..... *Damothus* Chamberlin

4b. Tarsungula with 1 prominent basal denticle 5

5a. Ventral pore-fields absent. (California) ..... *Malochora* Chamberlin

5b. Ventral pore-fields present. 6

6a. Coxopleural pores concentrated along and beneath margins of ultimate pedal sternite; this sternite always wider than long. (United States, Missouri westward to the Pacific Coast; eastern Asia) ..... *Tomotaenia* Cook *(sensu lato*[2]*)*

[2]If *Tomotaenia* is divided into subgenera on the basis of the presence or absence of sutures on the ultimate pedal pretergite, then the oldest available

6b. Coxopleural pores freely dispersed *at least* over ventral surface of coxopleuron; not restrictively concentrated along and beneath ultimate sternite margins; this sternite usually longer than wide or at most as wide as long. (Holarctic Region) .. *Strigamia* Gray 7

7a. Ultimate pedal pretergite fused with its pleurites, i.e. not bilaterally impressed with sutures. ..... *S. (Linotaenia)* C. L. Koch

7b. Ultimate pedal pretergite not fused with its pleurites, i.e. set off from them by prominent sutures or fissures. ..... *S. (Strigamia)* Gray[3]

References Cited

Attems, Carl graf.
1903. Synopsis der Geophiliden. Zool. Jahrb. (Syst.). **18**(2):155-302.
1947. Neue Geophilomorpha des Wiener Museums. Ann. Naturh. Mus. Wien. *55*:50-149.

Chamberlin, Ralph V.
1938. Three new geophiloid chilopods. Ent. News. **49**: 254-255.
1960. Five new western geophilid chilopods. Proc. Biol. Soc. Wash. *73*: 239-244.

Verhoeff, Karl W.
1933. Schwedisch-chinesische wissenschaftliche Expedition nach den nordwestlichen Provinzen Chinas. Arkiv för Zool. 26A(10): 1-41.

---

name for the bisuturate specimens would have to be *Diplochora* Attems, 1903. The non-suturate specimens would take the nominate generic name. The explanation for this is complicated and beyond the scope of this paper; however, it is fully treated in another paper being published in *Entomological News*.

[3]Historically three contending generic names have been applied to this zoological entity. Some workers continue to apply the wrong generic name. The only correct generic name is *Strigamia;* it is neither *Scolioplanes* nor *Linotaenia*. The whole matter was thoroughly discussed and clarified by me in a 1953 publication: see *Entomological News, 64*(7), pp. 169-172.